What is claimed is:

1   1.   A method of correcting reflectance comprising the steps of:
2   A.   determining a reflectance constant for a test product at a first wavelength for
3   which reflectance does not substantially change with the presence of a test
4   substance;
5   B.   with the test product loaded with the test substance, determining a reflectance
6   at a second wavelength for which signal-to-noise ratio is maximized and
7   determining a measured reflectance at the first wavelength; and
8   C.   determining a corrected reflectance as the product of the reflectance with a
9   ratio of the reflectance constant to the measured reflectance.

1   2.   The method of claim 1 wherein the test substance is an analyte.

1   3.   The method of claim 1 wherein the test product is a test strip comprising a plurality
2   of test pads.

1   4.   The method of claim 1 wherein the test product is a reagent cassette.

1   5.   The method of claim 1 wherein the measured reflectance is determined with a pulse
2   scan at the second wavelength.

1   6.   The method of claim 1 wherein the reference reflectance is determined with a pulse
2   scan at the first wavelength.

1   7.   The method of claim 1 wherein the reference reflectance is determined before
2   conditions relative to a concentration of the test substance substantially changes from the
3   time the measured reflectance was determined.

1   8.   A reflectance-based system including reflectance correction, the system comprising:
2   A.   transmitters for transmitting signals at different wavelengths to a test product
3   and detectors configured for detecting reflectance at the different
4   wavelengths from the test product;
5   B.   a set of storage devices configured for storing reflectance values;
6   C.   a set of processors configured to execute a program configured to implement
7   a method of correcting reflectance comprising the steps of:
8   i)   determining a reflectance constant for the test product at a first
9   wavelength for which reflectance does not substantially change with
10   the presence of a test substance;
11   ii)   with the test product loaded with the test substance, determining a
12   reflectance at a second wavelength for which signal-to-noise ratio is
13   maximized and determining a measured reflectance at the first
14   wavelength; and
15   iii) determining a corrected reflectance as the product of the reflectance
16   with a ratio of the reflectance constant to the measured reflectance.

1   9.   The system of claim 8 wherein the test substance is an analyte.

1   10.   The system of claim 8 wherein the test product is a test strip comprising a plurality
2   of test pads.

1   11.   The system of claim 8 wherein the test product is a reagent cassette.

1   12.   The system of claim 8 wherein the measured reflectance is determined with a pulse

2   scan at the second wavelength.

1   13.   The system of claim 8 wherein the reference reflectance is determined with a pulse

2   scan at the first wavelength.

1   14.   The system of claim 8 wherein the reference reflectance is determined before

2   conditions relative to a concentration of the test substance substantially changes from the

3   time the measured reflectance was determined.

1   15.   A computer program code embodying instructions for execution by at least one

2   processor to perform a method for correcting reflectance in a reflectance-based device

3   comprising transmitters for transmitting signals at different wavelengths to a test product

4   and detectors configured for detecting reflectance at the different wavelengths from the test

5   product, a set of storage devices configured for storing reflectance values, the method

6   comprising:

7   A.   determining a reflectance constant for a test product at a first wavelength for

8   which reflectance does not substantially change with the presence of a test

9   substance;

10   B.   with the test product loaded with the test substance, determining a reflectance

11   at a second wavelength for which signal-to-noise ratio is maximized and

12   determining a measured reflectance at the first wavelength; and

13   C.   determining a corrected reflectance as the product of the reflectance with a

14   ratio of the reflectance constant to the measured reflectance.

1   16.   The computer program product of claim 15 wherein the test substance is an analyte.

1   17.   The computer program product of claim 15 wherein the test product is a test strip
2   comprising a plurality of test pads.

1   18.   The computer program product of claim 15 wherein the test product is a reagent
2   cassette.

1   19.   A reflectance-based system including reflectance correction, the system comprising:
2   A.   transmitters for transmitting signals at different wavelengths to a test product
3   and detectors configured for detecting reflectance at the different
4   wavelengths from the test product;
5   B.   a set of storage devices configured for storing reflectance values;
6   C.   means for determining a reflectance constant for the test product at a first
7   wavelength for which reflectance does not substantially change with the
8   presence of a test substance;
9   D.   with the test product loaded with the test substance, means for determining a
10   reflectance at a second wavelength for which signal-to-noise ratio is
11   maximized and means for determining a measured reflectance at the first
12   wavelength; and
13   E.   means for determining a corrected reflectance as the product of the
14   reflectance with a ratio of the reflectance constant to the measured
15   reflectance.

1   20.   The system of claim 19 wherein the test substance is an analyte.

1   21.   The system of claim 19 wherein the test product is a test strip comprising a plurality
2   of test pads.

1   22.   The system of claim 19 wherein the test product is a reagent cassette.